
Commentary

What's New in Medical Communication?

Norman Goldstein MD, FACP, NN
Clinical Professor, Medicine (Dermatology)
John A. Burns School of Medicine
University of Hawaii

Advances are happening fast in the medical communications field. Some we now take for granted; others we've only heard about; and there are those we cannot even conceive of as possible, yet these new modes are either already in operation or soon will be!

Ten years ago, I wrote an article published in the *Hawaii Medical Journal*, *Is a "Fax" in Your Future?*¹ In it, I suggested that physicians consider a facsimile unit for their office, laboratory or perhaps even the home.

In the December 3, 1987 issue of *Pacific Business News*, a headline stated "it's hard to find an office that lacks a fax." That report referred to nonmedical offices. A year later, there were very few solo medical and small group practices in Hawaii that had fax units. Only one major medical clinic, Straub, in Honolulu had a fax. The Hawaii Medical Library was then planning to install one. Today, the fax is almost as common as the telephone.

We have come a long way since Rockwell International Corporation first developed facsimile technology in the late 1960's: from the thermal paper (that turned brown so quickly) to the modern plain paper units. Today faxes are faster, with sharper print, and cost effective. Most still print with black ink, but the color fax is also available.

Medical Communication is so vast a field of interest that it could easily warrant a textbook. Soon the subject will be a Special Issue of the *Hawaii Medical Journal*, but in this paper, we review how medical communication has progressed within the past decade.

The medical office / clinic / home / car

Telephones – very few offices now have only one telephone line. The phone companies in Hawaii can provide various types of rotating lines, including in-office communications, paging systems, call waiting, caller identification, conference call capabilities, and even two-way video telephones. Styles and colors of phone units are unlimited.

Telephone message machines are useful, but can be frustrating; a simple recording indicating office hours, out to lunch, or to call Dr. X who is covering for you, can certainly be helpful. A more extensive recording indicating the virtues and services of your office has many advantages too, when done professionally. Voice mail, requiring a directory of every employee, nurse, and additional personnel, is time-consuming, often culminating in a recording indicating "I am either on the phone or out of the office. Please leave a message."

Car phones used to be expensive to purchase or lease, and they required special installation. Now, hands-free car phones with push-button rapid dialing are more affordable and far safer when driving than previous alternatives.

Cellular telephones are lighter, smaller, and so affordable that many physicians carry a "cell" phone in addition to their pager. It's practical and safe for a spouse and children to carry their own cell phones.

Pagers are ubiquitous with dozens of varieties available from numerous answering services in Hawaii. Digital, vibratory, alpha-numeric and voice pagers cater to individual needs. Island-wide, statewide, and worldwide paging is available in Hawaii.

The Startel Telephone Answering System used by the Physicians Exchange of Honolulu has such a variety of features that I can only indicate a few here. After office hours, the Exchange picks up calls made to the office. Urgent calls are relayed by voice pager. Every call is answered and a message entered into the computer and time-stamped, as well as all processes made to relay the call. The next morning, all completed messages are faxed to the office. (Fig. 1). Messages are retained for seven years. In addition, all calls answered and made from the Exchange are automatically recorded into their voice recording system. These taped recordings are also retained for seven years. The Exchange also acts as a communications center (Fig. 2) and contact for burglary and fire alarm systems in homes and offices. The Exchange is a subsidiary of the Honolulu County Medical Society. A brief tour of the Exchange is a real "eye-opener" as to what is available in pager service, and I recommend that every physician visit their offices on Beretania Street.

Desktop equipment is user-friendly now with many special features depending on office/clinic/hospital needs. Magnetic tapes remain favorites and are economical. Equipment companies can install wiring, from exam rooms and consultation rooms, directly to the Secretary/Transcriber.

Portable dictation equipment has become even more portable. A small hand-held, pocket-sized unit can easily record an hour-long dictation or a lecture.

Computer programs are available in foreign language formats. This will undoubtedly become more popular as pricing is reduced. Hawaii will be the perfect testing laboratory to develop these multi-lingual programs.

Some dictation equipment companies, notably Dictaphone, are set up to enable the physician to dictate directly to the Secretary via phone from home, car, office, and the cell phone. It works very well, and saves time.

Voice-activated computers: For those who cannot or prefer not to type, the wonder of all office computer devices is the voice-activated dictating device. Several years ago, a demonstration of voice-activated computers was held in Honolulu. At that time, I was very unimpressed. The system required a great deal of training, advanced computer knowledge and, most importantly, it meant speaking *very* s-l-o-w-l-y as the unit learned your speech patterns and dialect.

Today the DragonDictate/NaturallySpeaking equipment enables users to speak to the computer in a natural way and at a normal pace with no need to pause between words. It has an active vocabulary of 30,000 words and up to 200,000 words in backup disc dictionaries. This manuscript is being entered and typed by my voice-activated computer, then finalized by a (highly overqualified) transcriber.

Tapes and Disks: the dinosaurs of recorded sound, the "78", "45" and LP records are still around, valued by collectors, but magnetic audio tapes have all but replaced them. Continuing Medical Educa-

Fig 1.— Sample of fax record of phone calls made to the office. Messages received by the Physicians Exchange operators and sent to physician at 7:15 AM next day.¹

In: 7:15a SAT OCT- 5 BW	In: 5:05p FRI OCT- 4 EV	In: 12:42p SAT OCT- 5 PH
Out: 7:34a SAT OCT- 5 BW GOL 0:16	Out: 7:34a SAT OCT- 5 BW GOL 0:51	Out: 12:42p SAT OCT- 5 PH GOL 0:41
For: GOLDSTEIN *RELAY @ 7:30AM*	For: GOLDSTEIN *RELAY OFC IN AM*	For: GOLDSTEIN
From:	From:	From: FEMALE CLR
Tel#:	Tel#:	Tel#: G/O LOC INFO
Msg: WANTS TO CHECK THE TIME OF APPT THIS MORNING	Msg: WANTS APPT FOR SAT OCT 5	Msg: WILL CL BK ON MON
* 7:33a SA OCT-05 BW OFC MARIA TK	* 7:34a SA OCT-05 BW OFC MARIE TK	
In: 12:54p SAT OCT- 5 BW	In: 12:58p SAT OCT- 5 Gin	In: 12:50p SAT OCT- 5 FKD
Out: 12:55p SAT OCT- 5 BW GOL 0:24	Out: 12:59p SAT OCT- 5 Gin GOL 0:22	Out: 1:07p SAT OCT- 5 BW GOL 1:29
For: GOLDSTEIN	For: GOLDSTEIN	For: GOLDSTEIN
From:	From: LONGS PALI/	From:
Tel#:	Tel#: WL CL OFG MONDAY	Tel#:
Msg: REF BY	Msg:	Msg: DTR MEDS
W/W & CL BK MON - WANTS TO SCHEDULE AN APPT		*12:56P SA OCT-05 FKD INFORM CLR RE M/C INSTR NA @#
		* 1:07p SA OCT-05 BW CI
		CI WITH NEW LOC # - ABOVE #
		IS HER RES/SHE IS NOT THERE - SEE NEXT MSG
In: 1:04p SAT OCT- 5 BW	In: 1:40p SAT OCT- 5 FKD	In: 3:01p SAT OCT- 5 Gin
Out: 1:11p SAT OCT- 5 Gin GOL 0:02	Out: 1:40p SAT OCT- 5 FKD GOL 0:11	Out: 3:07p SAT OCT- 5 Gin GOL 0:42
For: GOLDSTEIN	For: GOLDSTEIN	For: GOLDSTEIN
From:	From: FEMALE CLR	From:
Tel#:	Tel#: INFORMED TO CL OFC FOR APPT	Tel#:
Msg: RX REFILL/DTR /WANTS RX REFILL - CLR CLAIMS EMER	Msg:	Msg: SHOT HE GOT YESTERDAY DIDNT HELP THE ITCH
* 1:07p SA OCT-05 BW PAGER VP/PE		* 3:02p SA OCT-05 Gin PAGER VP/PE
* 1:11p SA OCT-05 Gin CI DRTK		* 3:07p SA OCT-05 Gin CI DR TK

tion programs on tape are available for all medical specialties. At home, in the office, and in the car, they continue to provide up-to-date medical information. The same can be said for videotapes, which provide patient information in offices and hospitals. The Compact Disc (the ubiquitous "CD") is now usurping the audio and video tape market, though tapes will probably remain a major educational/instructional medium for another generation. The CD-ROM's varied uses in medicine, entertainment and communication in general are easy-to-use, easy to mail, and economical. Now, interactive CD's and Laser Discs are happening.

Another use for the compact disc includes storage of basic medical records which must be retained for the life of the patient. Storage space for standard files is increasingly expensive for records, photos, and X-rays, which can now be transferred to CD's. It's not cost-effective at this time, but as the technology improves, undoubtedly charts and records will be retained on CD's.

The Medical Library

Any dissertation on medical communication must include the Library. Here are a few statistics: the Hawaii Medical Library receives more than 18,000 books and journals in an average year. Twenty-nine thousand books and journals were loaned in 1996.

Between July 1996 and June 1997, more than 124,000 "searches" were done on the Library's web site. The Web continues to expand exponentially as a major method of information transfer. Information skills are taught by the reference library staff, providing a formal class setting which includes the Internet, MEDLINE and other database searches. For those who cannot spare the time to go to the Library, the H.M.L. reference staff will provide reprints via the mail or by fax for a modest fee.

The Library is also home to the Consumer Health Information Service (CHIS). This new service provides health information resources to enable consumers, (patients and families) to make informed health care decisions. Call the Library and ask for the CHIS brochure for distribution to your patients. Then stop in to see the improved facilities at the Hawaii Medical Library – the **Forefront of Medical Communication in Hawaii**.

Medical Communications in Our Hospitals

In preparation for this manuscript segment, I contacted the hospital Directors of Communications and Computer Directors. They inundated me with materials on what's happening today in the communications field in our Hawaii hospitals.

Fig 2.— Physicians Exchange Communication Center. At peak hours, seven operators are kept busy. The Center is located in the Hawaii Medical Association Building on Beretania Street.



At Kapiolani Medical Center, for example, they have a new telecommunication system, "catapulting them into the 21st Century!" From voice mail to simplified four-digit dialing to programmable speed calls to ringer choice, etc., etc. for their more than 800 phones and 275 fax machines and modems.² Telecommunications are here, not just at Tripler Army Medical Center,³ but the entire world. Two-way video consultation programs doubled in the U.S. from 38 in 1995 to 69 in 1996. Interactive clinical consultations of all types showed a 300% increase from 6,134 to 19,380. According to *Telemedicine Today* magazine, this has increased even more in 1997.⁴

The World Wide Web has opened up medical communications in our hospitals, clinics, offices and homes—as well as those of our patients. Space here does not permit further explanation of the explosion in medical communications through the Web at this time. Look for the Special Issue of the *Hawaii Medical Journal* for more information in 1999.

Conclusion

Communication, in medicine and in general, is at its heart between people. From papyrus to paper, from audio and video to CDs and Laser Disks, we as physicians must always remember that eye to eye verbal communication is still, and

always will be, the best and most consoling means of bonding with our patients, our friends.

References

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3. Delplain C.B., Lindborg C.E., Norton S.A., Hastings J.E. Tripler Pioneers Telemedicine Across the Pacific, *Hawaii Med J*. 1993; 52:338-339.
4. Survey of U.S. Telemedicine Reveals Tripling of Activity in 1996. Association of Telemedicine Service Providers; joint press release October 7, 1997.

Editor's Note:

This manuscript first appeared in the April 1998 Proceedings of the Straub Foundation's "What's New in Medicine in Hawaii". As you will read, there are many new treatments, procedures, specialties and medical services available in Hawaii now.

Forty-two manuscripts were contained in the Proceedings, and while most of the papers were written by Straub physicians, several came from other leaders in the country. The papers are uniformly well written, especially for the medical generalist.

Bo Eklof, MD, PhD, medical director of the Straub Foundation and Editor of the Proceedings made a noteworthy effort in detailing what's new and promising in the Hawaii medical community. Limited copies of the Proceedings may still be available at the Foundation office (524-6755) and at the Hawaii Medical Library.

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